

Attorney Docket No. 10054-2
Patent

(a) a first metal having hydrogenation activity and selected from palladium, ruthenium, nickel, or cobalt;

(b) a second metal, different from the first metal, selected from zinc, tin, nickel or cobalt; and

(c) a crystalline inorganic oxide material having an X-ray diffraction pattern including the following d-spacing maxima 12.4 ± 0.25 , 6.9 ± 0.15 , 3.57 ± 0.07 and 3.42 ± 0.07 .

9. (First Amended) The catalyst of claim 7 wherein the crystalline inorganic oxide material is MCM-22 having an Alpha value greater than about 170.

10. (Three Times Amended) A catalyst suitable for the hydroalkylation of an aromatic hydrocarbon comprising:

(a) MCM-22 zeolite having an Alpha value greater than about 170;

(b) ruthenium; and

(c) tin.

11. (Amended) A catalyst suitable for the hydroalkylation of an aromatic hydrocarbon comprising:

ruthenium;

tin; and

a crystalline inorganic oxide material having an X-ray diffraction pattern including the following d-spacing maxima 12.4 ± 0.25 , 6.9 ± 0.15 , 3.57 ± 0.07 and 3.42 ± 0.07 , wherein the crystalline inorganic oxide material is selected from PSH-3, SSZ-25, MCM-36, MCM-49 or MCM-56.

REMARKS

Claims 7 has been amended to reinstate the scope of the original claims. It has also been amended to correct a typographical error, replacing "a" with "an" before the